151672

EARTH TECH DAILY SAFETY MEETING		
DATE: 6-16-09	TIME: 0700	CLIENT: EPA Region 2
SPECIFIC LOCATION: Raritan Bay Slag Site		JOB #: 112160

SAFETY TOPICS PRESENTED

Inspect equipment & tools before use, then operate equipment & tools properly.

PROTECTIVE CLOTHING/EQUIPMENT: Level D, gloves, hard hat, safety glasses, and hearing protection as needed

CHEMICAL HAZARDS: lead in excluded/fenced beach area

PHYSICAL HAZARDS: slips, trips & falls, equipment safety, heat stress, weather/storms

HOSPITAL/CLINIC: Robert Wood Johnson Hospital **PH #** 732-828-3000

1 Robert Wood Johnson Place, New Brunswick, NJ 08901

Report all near misses & all accidents to me immediately!!!

OTHER: - ***Report any unsafe jobsite conditions* ASAP!!**

SPECIAL EQUIPMENT: *Bobcat auger*

****Don't discuss this project* with anyone, refer them to the EPA OSC.**

ATTENDEES:

- Print	- Sign
M. GREENE	Maria Greene

Meeting Conducted By:

EARTH TECH DAILY SAFETY MEETING		
DATE:	**TIME:**	**CLIENT: EPA Region 2**
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HOSPITAL/CLINIC: Robert Wood Johnson Hospital		**PH #** 732-828-3000
1 Robert Wood Johnson Place, New Brunswick, NJ 08901		
***Report all near misses & all accidents to me immediately!!!**		
OTHER: - ***Report any unsafe jobsite conditions ASAP!!***		
SPECIAL EQUIPMENT: Bob*cat auger*		
****Don't discuss this project** with **anyone**, refer them to the EPA OSC.		
ATTENDEES:		
- Print		- Sign
Meeting Conducted By:		

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ATTENDEES:		
- Print		- Sign
Meeting Conducted By:		

AECOM

DATE: 06/05/09
RARITAN BAY SLAG PILE
TASK HAZARD ANALYSIS FORM

ADMINISTRATIVE INFORMATION

Job/Task Name: Removal and chipping of aboveground portions of split rail fencing

Project Name: Raritan Bay Slag Pile	Project Location: Sayreville, NJ
Project Manager: Rob Flowers	Analysis Performed By: Sean Liddy/Carl Duffey
Date Job/Task to be performed: 6/8/09 thru 6/12/09	Type of Job/Task: ☒ One time ☐ Routine job/task
Responsible Organization: AECOM	Job Supervisor: Carl Duffey

JOB EVENT SEQUENCE

LIST ONE STEP OF THE JOB FOR EACH LINE. (*ATTACH ADDITIONAL JOB EVENT SEQUENCE FORM(S) AS NECESSARY*). PAGE 1 OF 2

1. Pre-operational check of equipment	5. Upright post pulled 6-8 inches out of ground using synthetic sling and excavator
2. Ensure area cleared for utilities (over/under)	6. Ensure no tension on sling prior cutting
3. Track equipment to task location ensuring clear route	7. Cut sub-grade portion of post with chainsaw and leave in ground. Use sledge hammer to drive remaining portion of post back into ground.
4. Remove and stockpile rails	8. Use sledge hammer to drive remaining portion of post back into ground

CHEMICAL HAZARDS

☐ Asbestos	☐ Bunker fuel/oil	☐ Compressed gases/asphyxiants
☐ Acids	☐ Explosives (TNT)	☐ PAHs
☐ Caustics	☐ Dust	☐ Welding fumes
☐ Chlorinated hydrocarbons (TCE)	☐ Dioxins	☐ Hydrogen sulfide
☒ Lead	☐ Pesticides/Herbicides	☐ Other metals
☐ Gasoline or diesel fuel	☐ MTBE	
☐ BTEX	☐ Methylene chloride	
☐ Jet fuel (JP-4, JP-5, JP-8)	☐ Waste oil	
☐ PCBs	☐ Hydraulic fluid	
☐ Cadmium	☐ Petroleum hydrocarbons	

PHYSICAL HAZARDS

☐ Electricity/High voltage	☐ Ionizing radiation
☐ Elevated work areas (fall hazard)	☐ Eye hazards (impact, light, etc.)
☐ Non-Ionizing radiation (RF/UV/IR)	☐ Slips, trips, and falls
☐ OE/UXO	☐ Hazardous noise
☐ Hand tool usage	☐ Heat or cold stress
☒ Power tool usage	☐ Oxygen-deficient atmosphere
☒ Heavy equipment operations	☐ Oxygen-enriched atmosphere
☐ Drill rig (HSA, DP, Air Rotary)	☐ Explosive atmosphere
☐ Excavations (engulfment/collapse)	☐ Powder-actuated tools
☐ Confined space entry	☐ Vehicular traffic

Other Chemical/Physical Hazards (*List*): Ensure all tension removed from riaaina prior to cuttino post. Review equipment safety cards prior to using chainsaw. Review of SH&E 401 prior to use of chipper.

PERSONAL PROTECTIVE EQUIPMENT (PPE) REQUIRED

Boots:
☐ Rubber (safety-foe)
☒ Leather (safety-toe)

General:
☐ Coveralls _____(type)
☒ Hearing protection (plugs/muffs)
☐ FF APR _____(cartridges)
☐ ½-face APR _____(cartridges)
☐ Safety harness & lanyard
☒ ANSI-approved Hard hat

Eye Protection:
☒ Face shield
☒ Safety glasses or goggles
☐ Welder's helmet/goggles

Gloves:
☐ Chemically-protective _____(type)
☒ Leather/cloth
☐ Welder's
☐ Electrical safety _____(volts)

Other (*List*): High-Vis Safety Vest, chainsaw chaps, and face shield

OTHER SAFETY EQUIPMENT/CONSIDERATIONS

☒ Fire ext. 1A:10B:C (*rating*)
☒ First-aid kit
☐ Dust control/mitigation
☐ Portable eyewash
☐ Fire watch
☐ Traffic control measures

Other (*List*): _____

INSPECT/PERMIT REQUIREMENTS	EQUIPMENT TO BE USED
Preoperational equip checks	Bobcat
	Chainsaw

APPLICABLE SOPS (SEE HASP/SSHP/APP)

SH&E 109, SH&E 113, SH&E 401, SH&E 513, SH&E 516

TRAINING REQUIREMENTS

Site Specific Safety Briefing, 40-hr HAZWOPER, FA/CPR, blood Lead monitoring,

AECOM

DATE: 06/05/09
RARITAN BAY SLAG PILE
TASK HAZARD ANALYSIS FORM

JOB EVENT SEQUENCE (CONT'D)	
LIST ONE STEP OF THE JOB FOR EACH LINE.	PAGE 2 OF 2
11. Chip rails and posts	
12. Preoperational check of chipper (ensure E-stop buttons and bars functional)	
13. Ensure location of chip pile is clear and marked to prevent personnel from being struck by flying debris.	
14. Ensure no loose clothing or other items that could get caught are worn.	
15. As chipper takes debris, personnel stand clear. Do not attempt to un-jam stuck item by hand. Use other rail or post.	
16.	
17.	
18.	
19.	
20.	

MONITORING PROCEDURES

PARAMETER	LOCATION AND INTERVAL	RESPONSE LEVEL (Meter units/ppm above background)	RESPONSE
Dust, Mist, Aerosols (Total by PDR)	Continually in the worker's breathing zone during intrusive activities involving impacted materials. In addition, site perimeter monitoring may be initiated by the SSO based on elevated air monitoring results.	Initial excavation or disturbance of unknown materials	Level C ensemble as listed in this HASP and per SSO and SH&E Manager.
		< 0.25 mg/m^3 (Sustained for more than 5 minutes)	Continue Level D work and continue monitoring.
		≥ 0.25 mg/m^3 (Sustained for more than 5 minutes)	Upgrade to Level C PPE. Contact the RM and SSO, implement mitigation measures, and continue Level C (minimum GMA/P100 cartridges or equivalent chemical cartridge combined with P100) and continue monitoring. Personnel air sampling required (see below).
		≥ 5 mg/m^3 (Sustained for more than 5 minutes)	Temporarily cease work operations, contact the RM and SH&E Manager to discuss improving site mitigation measures. Possible upgrade to Level B for exclusion zone workers.
Dust, Mist Aerosols (8-hr TWA)	Personal air samples taken in worker's breathing zone during intrusive activities involving impacted materials.	≥ 0.25 mg/m^3 Collect cassettes for analysis	Consult with SH&E Department.

ACCEPTED SIGNATURES

Site/Field Supervisor:	SSO/SH&E:
Carl Duffey	Carl Duffey/Sean Liddy, CHST

AECOM

DATE: 06/05/09
RARITAN BAY SLAG PILE
TASK HAZARD ANALYSIS FORM

I HAVE READ OR BEEN BRIEFED ON THE HAZARDS AND PROTECTIVE MEASURES IDENTIFIED FOR THE ABOVE-LISTED JOB/TASK AND FULLY UNDERSTAND THE JOB/TASK-SPECIFIC REQUIREMENTS THAT HAVE BEEN ESTABLISHED FOR IT.			
DATE	EMPLOYEE NAME	EMPLOYEE SIGNATURE	EMPLOYER NAME
6-8-09	Morris Greene	Morris Greene	AECOM
6-8-09	Nick Cabo	Nick Cabo	AECOM

EARTH TECH | AECOM

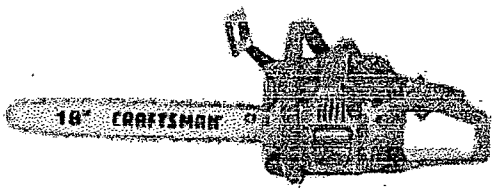
SAFETY NOW
NO OTHER WAY

SAFETY CARD

CHAINSAW

Objective / Overview:

Available in a variety of types and capacities, chainsaws are one of the most powerful, yet dangerous cutting tools available. Working safely with a chain saw begins with training. Additional safety measures include proper training, good body mechanics and felling technique, well-maintained equipment, and protective clothing.



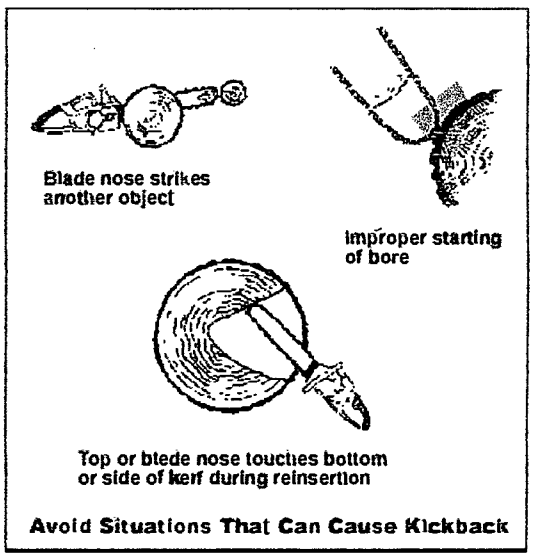
Safe Operating Guidelines:

A sharp chainsaw is safer than a dull one. Keep the saw clean, lubricated, and adjusted. Before starting work inspect and test the chain brake, chain catch, throttle lock, handles and guards, all nuts and bolts, spark arrester, and muffler and air filter. The chain tension should be properly adjusted and the carburetor tuned. Never "drop start" the saw.

A chainsaw is not only dangerous to the operator but to those around him. Keep the saw close to the body. Bend from the knees, not the waist. Improper lifting techniques and poor posture contribute to injuries.

Potential Hazards:

- Kickback – Sudden and violent reverse movement of the saw
- Hand / arm vibration syndrome
- Flying / falling debris
- Severe cuts



Training Requirements:

- Review of Applicable SOPs (SH&E 401, *Clearing & Grubbing*)
- Demonstrated knowledge on the use of a chainsaw
- Review of manufacturers operating guidelines

Personal Protective Equipment (Level D PPE) and:

- Debris Shield
- Chainsaw Chaps
- Leather Gloves
- Hearing Protection

Other Safety Tips:

- Always avoid standing on the log and making cuts with the saw between your legs; always cut with the saw to the outside of your legs
- Determine where the tree/limb will fall prior to cutting. Always ensure that personnel and equipment are not in the path the falling tree/log, and that you have time to move away. If necessary, flag/or fence off the area to prevent entry.
- Always stand to one side of the limb you are to cut, never straddle it
- Always keep in mind where the chain will go if it breaks, never position yourself or other people in line with the chain
- Keep the chain out of the dirt, debris will fly, the teeth will be dulled and the chain life shortened

EARTH TECH | AECOM

SAFETY NOW
NO OTHER WAY

SAFETY CARD

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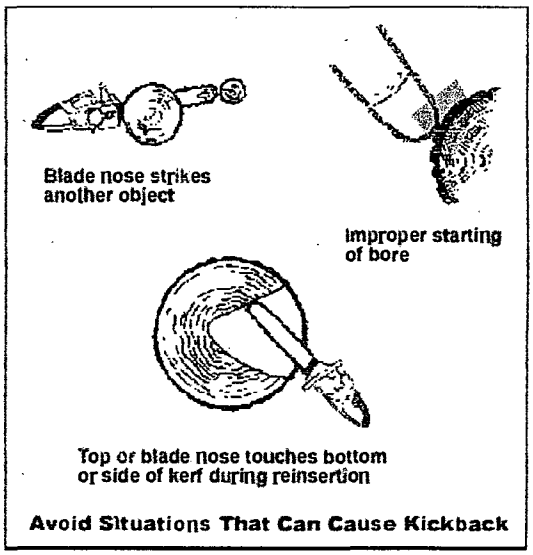

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EarthTech A Tyco International Ltd. Company **Safety, Health & Environmental Procedure**	PROCEDURE NO. SH&E 401 DATE March 11, 2005 REVISED June 1, 2008
Clearing & Grubbing	PREVIOUSLY ENV 533

This procedure applies to all U.S.-based personnel, projects, offices, business units and activities. Any exceptions to this procedure must be approved, in writing, by the responsible District/Business Unit Manager and Safety Manager.

1.0 PURPOSE

Establish safe-operating requirements for employees engaged in the use of tools and equipment typically associated with clearing and grubbing activities (especially chainsaws and wood chippers).

2.0 SCOPE

This procedure applies to all clearing and grubbing activities performed by Earth Tech personnel.

3.0 PROCEDURES

3.1 Training

Operators must be carefully instructed in the use of equipment before use and should be provided with a copy of this procedure, an Earth Tech issued Equipment Safety Card for each power tool in use (Refer to SH&E 516 – Equipment Safety Cards for further guidance), and relevant manufacturer information on equipment operation and maintenance. During the training period, inexperienced employees should be under constant supervision from an experienced operator. In addition, all powered equipment must be inspected prior to use.

The operator must be completely familiar with the controls and proper use of the equipment.

3.2 PPE

- Minimum PPE required includes hardhat, steel-toe safety boots, safety glasses, hearing protection, leather gloves and debris shield. Loose fitting clothing, gauntlet gloves, and jewelry should not be worn when operating chainsaws or wood chippers.
- Chainsaw operations require the use of chainsaw chaps (leather leggings are not suitable)
- Employees working aloft in trees will use a safety belt, safety strap, tree-trimming saddle belt, or rope saddle belt. Personnel working aloft in aerial platforms will adhere to the fall protection requirements specified in SH&E 120 - *Fall Protection Program*.
- A high visibility reflectorized safety vest will be worn when working around vehicular traffic.

3.3 Fire Prevention

- Fuel should only be stored in approved metal safety cans and labeled as to contents.
- The container should have a metal spout and funnel provided to allow for electrical bonding during fuel transfer.
- Motorized equipment will tie turned off while being refueled.
- Smoking is prohibited during refueling.
- After completing fueling, carefully wipe off any fuel spilled before starting the engine.
- Keep a type A:B:C fire extinguisher available at all times in the work area.
- Keep the equipment clean of fuel, oil, and sawdust.

4.0 EQUIPMENT-SPECIFIC HAZARDS

4.1 Wood Chipping Hazards

Wood chipping equipment should be used with extreme caution in order to prevent personal injury, as the chipping mechanism is open to receive tree branches and other wooden material. The cutting blades begin to rotate when the engine starts and slows down only gradually after the engine is shut off.

The following safe work practices should be observed:

- Care should be taken to avoid foreign objects such as metal, glass or rocks that could damage equipment and become projectiles
- Personnel will not wear loose clothing, gauntlet gloves, or hand/wrist jewelry when operating a chipper.
- No part of an employee's body will be placed on the chipper table.
- The discharge chute will not be raised while the rotor is turning.
- A chipper will be fed from the side of the centerline, and the employee will immediately turn away when the brush is taken into the rotor chamber.
- Bystanders should be kept at least 25 feet away when in operation.
- Never try to clear blockages by hand and always engage the chipping mechanism gradually using the safety handle.
- Brush chippers will be provided with a locking device on the ignition system that prevents startup when the key is removed.
- Access panels must be closed and secured before chippers are used.
- The infeed hopper or table will be of a design to prevent an employee from reaching the rotor blades or knives during normal operation.
- Trailer-type chippers will have wheels chocked when in use.
- The feed openings will be protected with flap-type guards to prevent kickback of chips.

4.2 Chainsaw Hazards

Chain saws can be obtained in a variety of horsepower levels and sizes. Some points to consider before selection include size of job, balance of the saw, hand guards, kickback protection features, vibration reduction systems, and convenience and ease of refueling.

Chain saws should be used with caution in order to prevent personal injury, as the cutting mechanism is unguarded. Kickback is the single biggest cause of chain saw injuries. A kickback is the sudden and potentially violent reanward and or upward movement of the chain saw. It is often caused by the chain striking the wood or other object on the top quadrant on the tip of the chain guide bar. It can also be caused by binding or pinching in the cut. Several kickback protection techniques are used with chainsaws.

- Before starting a cut, an employee will check for:
    - Other employees in the area.
    - Dead limbs.
    - Angle of tree.
    - Wind condition.
    - Location of other trees.
    - Other hazards.

- Before starting a cut, an employee will plan a retreat path. In addition, an employee will not cut a tree during a storm, high wind, or when covered with snow or ice, unless it is an emergency and the supervisor concurs with the necessity.
- If others are present, a verbal warning will be provided before dropping a limb.
- Earth Tech employees will not climb trees to cut limbs, etc. They will use an aerial lift or man basket to cut limbs higher than can be reached from the ground.
- A cut limb will not be left aloft overnight unless it is secured to the tree.
- When possible, the employee will cut a limb from the opposite side and above.
- Branches under tension will have the tension released before being cut.
- When topping, a crane will be used to lower branches and limbs if the tree cannot withstand the strain.
- When lowering a limb or branch, the employee in the tree will, whenever possible, place himself/herself above the limb being lowered.
- Assistants will be told precisely what to do. Other employees will be cleared to a minimum of (1X) the tree height away.
- An undercut will be large enough (about one-third the diameter) to safely guide the tree and reduce the chance of splitting.
- A back cut will leave sufficient hinge wood (the distance between the notch and back cut) to guide the tree's fall in the desired direction and to hold the tree to its stump for most of its fail. The back cut will be about 2 inches above the undercut, and as level as possible.
- Before starting a back cut, the area will be cleared of people and equipment.
- The saw will be shut off before the person starts retreating.
- Where the tree may slide or role, the person will cut from the uphill side.

- An audible warning will be given just before the tree starts to fall (e.g., "Timber!").
- If the tree may fall the wrong way, wedges, block and tackle, or rope will be used to control the fall.
- When cutting a felled tree into pieces (bucking), the following safety procedures will be followed:
    - The employee will work from the uphill side.
    - The log or limb will be blocked from rolling.
    - The trunk and limbs of large frees will be wedged to prevent binding the saw guide or chain.
- Bmsh or limbs will not be placed in such a way as to create a hazard.
- A power saw will be tumed off when being raised or lowered, or when not in use.

4.3 Brush Clearing

- Machetes – use in light brush (less than 1-inch diameter trunks):
    - Keep machete in a scabbard when it is not in use.
    - Sharpen machete to ensure a clean bite; the blade should not be sharpened for the first 6 inches from the handle nor the last 2 inches from the point.
    - Install a saber-type hand guard on the machete. This will help prevent the tool from accidentaliy being thrown during a swing.
    - Do not hit the ground with your machete; the flexible blade could recoil from the impact, resulting in an injury.
    - Clear the wing area prior to advancing through a brushy area. An interrupted swing could deflect the tool into the user.
- Ax, Brush Ax, or Hatchet – use in heavier bmsh (more than 1-inch diameter tmnks):
    - Keep axes sharp; a dull ax tends to glance off of wood, while a sharp ax will bite into the wood.
    - Use hatchets for small jobs such as splitting wood. Lightly tap the log to start the hatchet, then lift the log and force the hatchet through by striking the log on a solid block of wood.
    - Do not use the hatchet to drive nails. The head of the hatchet is not tempered to withstand the force of driving, and a metal splinter may pop off.

5.0 References

SH&E 120 – *Fall Protection Program*

SH&E *404* – *Manual Lifting*

SH&E 514 – *Manlifts*

SH&E 516 – *Equipment Safety Cards*

SH&E 606 – *Flammable & Combustible Materials*